

AMENDMENT AND RESPONSE

Serial Number: 09/652,998

Filing Date: August 31, 2000

Title: CONTAINER CAPACITOR STRUCTURE AND METHOD OF FORMATION THEREOF

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could be added to C1

clearance opening at the first level around the contact and does not vertically descend between the first, second and third bottom capacitor plates and the contact, and wherein said top capacitor plate lines a side of said trench and further lines a bottom of said trench at a second level within said array; and

a dielectric between said top capacitor plate and said first, second, and third bottom capacitor plates.

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67. An array of capacitors comprising:
first, second and third memory cell capacitors comprising first, second and third bottom container-shaped electrodes, respectively;

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a bit line contact laterally positioned between the first and second memory cell, the bit line contact downwardly extends from a vertical height above a top of the first and second bottom electrodes;

a trench laterally positioned between the second and third bottom electrodes;

a common top electrode capacitively coupled to the first, second and third bottom electrodes via a capacitor dielectric layer, wherein the top electrode includes a lateral clearance opening above the top of the first bottom electrode and around the bit line contact, the top electrode is capacitively coupled to an interior of the first, second and third bottom electrodes and an portion of the exterior of the second and third bottom electrodes located in the trench; and

a bit line contact insulation region surrounding the bit line contact and filling a region between the bit line contact and the bottom electrode.

68. An array of capacitors comprising:

first, second and third memory cell capacitors comprising first, second and third bottom container-shaped electrodes, respectively;

a bit line contact laterally positioned between the first and second memory cell, the bit line contact downwardly extends from a vertical height above a top of the first and second bottom electrodes;

a trench laterally positioned between the second and third bottom electrodes;

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a common top electrode capacitively coupled to the first, second and third electrodes via a capacitor dielectric layer, wherein the top electrode includes a lateral clearance opening around the bit line contact, the top electrode is capacitively coupled to an interior of the first, second and third bottom electrodes and a portion of the exterior of the second and third bottom electrodes located in the trench; and

a bit line contact insulation region surrounding the bit line contact and filling a region between the bit line contact and the first and second bottom electrodes, wherein the bit line contact insulation region prevents the top electrode from downwardly extending between the bit line contact and the first and second bottom electrodes.